

**Product Name :**  
Vapour Compression Refrigeration Unit

**Product Code :**  
EEZ0023



**Description :**

Vapour Compression Refrigeration Unit

**Technical Specification :**

Vapour Compression Refrigeration Unit

**Specification:**

- Complete refrigeration system enabling demonstration of the vapour compression refrigeration cycle

- Fully instrumented to enable complete analysis of the processes involved and calculation of the changes in performance with operating conditions
- Computer controlled system with automatic recording of process variables using an integral USB interface
- Hermetically sealed rotary compressor driven by DC motor with three phase BLDC variable speed drive
- Compressor speed under computer control with a wide range of operation from 2000 to 4400 RPM
- Real time display of superheat calculations
- Real time display of Coefficient of Performance
- Energy transferred to the evaporator and from the condenser measured independently on the service side of the process
- Measurement sensors include:

- 9x Thermistor sensors measuring temperatures throughout the system
- 2x Turbine type flow meters measuring flow of water through the condenser and e vaporator
- 2x Electronic sensors measuring pressures before and after the compressor
- 2x Bourdon type refrigeration pressure gauges (with scale indicating equivalent refrigerant saturation temperature)
- 1x Variable area flowmeter measuring refrigerant flowrate
- 1x DC Current shunt measuring current to the compressor motor
- Supplied complete with large water reservoir to isolate the process from fluctuations in temperature or pressure in the mains water supply
- Comprehensive instruction manual supplied

**Features:**

- Complete system enabling demonstration of the vapour compression refrigeration cycle
- Computer controlled with automatic recording of measured and calculated variables using a PC
- Hermetically sealed rotary compressor with wide speed range can be varied by the operator
- Condenser and evaporator both use plate heat exchangers with water as the heat transfer medium enabling a full energy balance to be carried out while varying the operating conditions

---

on both sides of the compressor

- Overall performance of the system is calculated and displayed continuously enabling the effect of changes in the system to be evaluated
- Instrumented with electronic sensors measuring temperatures throughout the process, pressure on both sides of the compressor and independent water flowrates through the condenser and evaporator
- Bourdon type gauges indicate the pressure and corresponding refrigerant saturation temperature on both sides of the compressor independent from the electronic systems
- Variable speed pumps supply water at stable temperature and pressure from a large reservoir to the condenser and evaporator eliminating random fluctuations

## Civil Mechanical India

**Website:** [www.civilmechanicalindia.com](http://www.civilmechanicalindia.com), **Email:** [export@civilmechanicalindia.com](mailto:export@civilmechanicalindia.com)

**Address:** 6148/6, Guru Nanak Marg, Ambala Cantt, Haryana, India, **Phone:** +91-0171-2643080, +91-0171-2601773